What is claimed is:

1. A liquid material ejection device, comprising:

a gas chamber;

a film located within the gas chamber, the film capable of providing a gas that dissociates from the film when heated by a heating source;

a conduit for ejecting liquid material in communication with the gas chamber;

a recharging gas source coupled to the gas chamber; and

a gas flow restricting device adapted to selectively provide gas from the recharging gas source to the gas chamber by actuation of the gas flow restricting device.

2. The liquid material ejection device of claim 1, wherein the liquid material includes liquid solder.

3. The liquid material ejection device of claim 1, wherein the gas includes hydrogen gas.

4. The liquid material ejection device of claim 1, wherein the film includes titanium hydride (TiH_2).

5. The liquid material ejection device of claim 1, wherein the heating source includes a laser heating source.

6. The liquid material ejection device of claim 1, wherein the gas flow restricting device includes a valve.

7. The liquid material ejection device of claim 6, wherein the valve includes a gas blocking mass wherein a location of the gas blocking mass is moveable from a first position to a second position using a method, including:

melting at least a portion of the gas blocking mass in the first position;

moving the gas blocking mass; and

solidifying the portion of the gas blocking mass in the second position.

8. The liquid material ejection device of claim 1, wherein the gas flow restricting device includes a membrane wherein gas permeability of the membrane is selectively controlled.

9. The liquid material ejection device of claim 8, wherein the gas permeability of the membrane is selectively controlled by varying a temperature of the membrane.

10. The liquid material ejection device of claim 9, wherein the membrane includes palladium (Pd).

11. A liquid material ejection device, comprising:

a gas chamber;

a film located within the gas chamber, the film capable of providing a gas that dissociates from the film when heated by a heating source;

a conduit for ejecting liquid material in communication with the gas chamber;

a recharging gas source coupled to the gas chamber; and

a valve adapted to selectively provide gas from the recharging gas source to the gas chamber by selective positioning of a gas blocking mass.

12 The liquid material ejection device of claim 11, wherein the valve includes a gas blocking mass wherein a location of the gas blocking mass is moveable from a first position to a second position using a method, including:

melting at least a portion of the gas blocking mass in the first position;

moving the gas blocking mass; and

solidifying the portion of the gas blocking mass in the second position.

13. The liquid material ejection device of claim 12, wherein the gas blocking mass includes a solder mass.

14. The liquid material ejection device of claim 11, wherein the liquid material includes liquid solder.

15. The liquid material ejection device of claim 11, wherein the gas includes hydrogen gas.

16. The liquid material ejection device of claim 11, wherein the film includes titanium hydride (TiH_2).

17. A liquid material ejection device, comprising:

a gas chamber;

a film located within the gas chamber, the film capable of providing a gas that dissociates from the film when heated by a heating source;

a conduit for ejecting liquid material in communication with the gas chamber;

a recharging gas source coupled to the gas chamber; and

a membrane adapted to selectively provide gas from the recharging gas source to the gas chamber by selectively altering a permeability of the membrane.

18. The liquid material ejection device of claim 17, wherein the gas includes hydrogen gas.

19. The liquid material ejection device of claim 17, wherein the film includes titanium hydride (TiH_2).

20. The liquid material ejection device of claim 17, wherein the permeability of the membrane is selectively controlled by varying a temperature of the membrane.

21. The liquid material ejection device of claim 17, wherein the membrane includes palladium (Pd).

22. A liquid material ejection device, comprising:

a plurality of print heads, including:

a gas chamber;

a film located within the gas chamber, the film capable of providing a gas that dissociates from the film when heated by a heating source;

a conduit for ejecting liquid material in communication with the gas chamber;

at least one recharging gas source coupled to at least one of the gas chambers;

at least one gas flow restricting device adapted to selectively provide gas from the recharging gas source to at least one of the gas chambers by actuation of the gas flow restricting device; and

a print positioning system capable of locating at least one of the print heads relative to a substrate surface.

23. The liquid material ejection device of claim 22, wherein the print positioning system includes an X-Y translation stage.

24. The liquid material ejection device of claim 22, wherein a single recharging gas source is provided for multiple gas chambers.

25. The liquid material ejection device of claim 22, wherein a single gas flow restricting device is provided for multiple gas chambers.

26. The liquid material ejection device of claim 22, wherein a first one of the plurality of print heads contains solder, and a second one of the plurality of print heads contains flux.

27. A liquid material ejection device, comprising:

a gas chamber;

a means for storing gas located within the gas chamber, wherein the gas dissociates from the means when heated by a heating source;

a conduit for ejecting liquid material in communication with the gas chamber;

a recharging gas source coupled to the gas chamber; and

a selective gas access means for selective introduction of the gas from the recharging gas source to the gas chamber.

28. The liquid material ejection device of claim 27, wherein the means for storing gas includes a titanium hydride (TiH_2) film.

29. The liquid material ejection device of claim 27, wherein the selective gas access means includes a valve.

30. The liquid material ejection device of claim 27, wherein the selective gas access means includes a selectively permeable membrane.

31. A method of ejecting a quantity of a liquid material, comprising:

heating a film to release a quantity of gas, wherein the film is located within a gas chamber;

pressurizing a conduit using pressure provided by the released quantity of gas;

ejecting a quantity of the liquid material from within the conduit using the pressure provided by the quantity of gas;

introducing a recharging gas to the gas chamber wherein the quantity of gas is substantially restored in the film.

32. The method of claim 31, wherein heating a film to release a quantity of gas includes heating a film using laser energy to release a quantity of gas.

33. The method of claim 31, wherein introducing a recharging gas to the gas chamber includes actuating a valve to introduce a recharging gas to the gas chamber.

34. The method of claim 33, wherein actuating the valve includes:

melting at least a portion of a blocking solder mass in a first position;

moving the blocking solder mass to a second position; and

solidifying the portion of the blocking solder mass in the second position.

35. The method of claim 31, wherein introducing a recharging gas to the gas chamber includes heating a selectively permeable membrane to introduce a recharging gas to the gas chamber.

36. The method of claim 31, wherein heating a film to release a quantity of gas includes heating a film to release a quantity of hydrogen.

37. The method of claim 31, wherein ejecting a quantity of the liquid material includes ejecting a quantity of the liquid solder.

38. The method of claim 31, wherein heating a film to release a quantity of gas includes heating a titanium hydride (TiH_2) film.

39. A method of forming a C4 interconnect structure, comprising:

heating a film to release a quantity of gas, wherein the film is located within a gas chamber;

pressurizing a conduit using pressure provided by the released quantity of gas;

ejecting a quantity of liquid solder from within the conduit onto a connection pad on a substrate using the pressure provided by the quantity of gas;

reflowing the quantity of solder to form a C4 bump; and

introducing a recharging gas to the gas chamber wherein the quantity of gas is substantially restored in the film.

40. The method of claim 39, wherein introducing a recharging gas to the gas chamber includes actuating a valve to introduce a recharging gas to the gas chamber.

41. The method of claim 40, wherein actuating the valve includes:

melting at least a portion of a blocking solder mass in a first position;

moving the blocking solder mass to a second position; and

solidifying the portion of the blocking solder mass in the second position.

42. The method of claim 39, wherein introducing a recharging gas to the gas chamber includes heating a selectively permeable membrane to introduce a recharging gas to the gas chamber.

43. The method of claim 39, wherein reflowing the quantity of solder to form a C4 bump includes reflowing the quantity of solder to form a C4 bump of approximately 10 microns in diameter.

44. A method of forming an integrated circuit chip, comprising:

forming a circuit within a semiconductor chip;

coupling a number of interconnection structures to the circuit on a surface of the semiconductor chip, wherein at least one of the interconnection structures is formed by a method including:

heating a film to release a quantity of gas, wherein the film is located within a gas chamber;

pressurizing a conduit using pressure provided by the released quantity of gas;

ejecting a quantity of liquid metal from within the conduit using the pressure provided by the quantity of gas;

introducing a recharging gas to the gas chamber wherein the quantity of gas is substantially restored in the film.

45. The method of claim 44, wherein introducing a recharging gas to the gas chamber includes actuating a valve to introduce a recharging gas to the gas chamber.

46. The method of claim 45, wherein actuating the valve includes:

melting at least a portion of a blocking solder mass in a first position;

moving the blocking solder mass to a second position; and

solidifying the portion of the blocking solder mass in the second position.

47. The method of claim 44, wherein introducing a recharging gas to the gas chamber includes heating a selectively permeable membrane to introduce a recharging gas to the gas chamber.

48. The method of claim 44, wherein forming a circuit within a semiconductor chip includes forming a memory array within a semiconductor chip.

49. The method of claim 44, wherein coupling a number of interconnection structures to the circuit includes coupling a number of C4 structures to the circuit.

50. The method of claim 44, wherein ejecting a quantity of liquid metal includes ejecting a quantity of liquid solder.

51. A method of forming an information handling system, comprising:

forming a number of integrated circuit chips including a memory device and a processor chip;

coupling a number of interconnection structures to at least one of the integrated circuit chips, wherein at least one of the interconnection structures is formed by a method including:

heating a film to release a quantity of gas, wherein the film is located within a gas chamber;

pressurizing a conduit using pressure provided by the released quantity of gas;

ejecting a quantity of liquid metal from within the conduit using the pressure provided by the quantity of gas;

introducing a recharging gas to the gas chamber wherein the quantity of gas is substantially restored in the film.

52. The method of claim 51, wherein introducing a recharging gas to the gas chamber includes actuating a valve to introduce a recharging gas to the gas chamber.

53. The method of claim 52, wherein actuating the valve includes:

melting at least a portion of a blocking solder mass in a first position;

moving the blocking solder mass to a second position; and

solidifying the portion of the blocking solder mass in the second position.

54. The method of claim 51, wherein introducing a recharging gas to the gas chamber includes heating a selectively permeable palladium (Pd) membrane to introduce a recharging gas to the gas chamber.

55. The method of claim 51, wherein ejecting a quantity of liquid metal includes ejecting a quantity of liquid solder.